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ABSTRACT

Intended as an aid to school systems in planning and executing evaluation of educational projects and programs, this handbook presents the technical aspects of evaluation in a practical way. The chapters of the handbook are: 1. Assessment of Needs; 2. Establishment of Objectives; 3. Measurement of Objectives; 4. Dissemination of Evaluation; and 5. Critique of an Evaluation Report. A bibliography on the evaluation of educational programs is provided. In the appendix to the handbook, the Critique of Evaluation Report is given. (DB)

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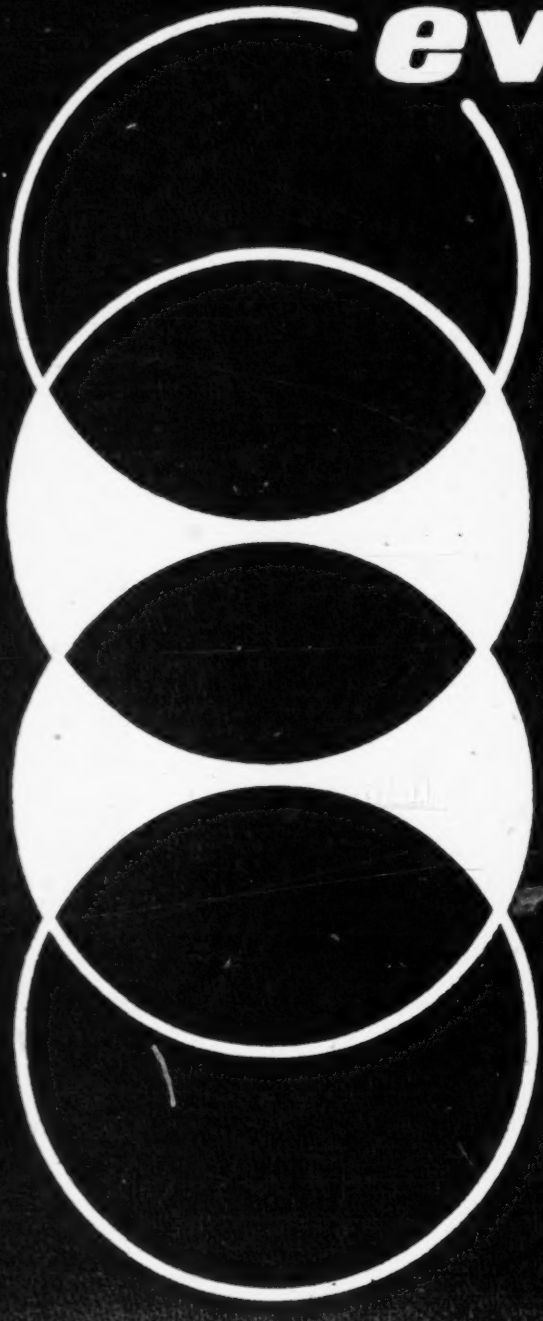
a guide to project evaluation



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A GUIDE TO PROJECT EVALUATION

A Report of Evaluation Seminars
sponsored by
The Connecticut State Department of Education

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PREFACE

Essential to every educational project is the process of appraising the results of the expenditure of effort and money. Continuing evaluation enables the project director and staff to consider what's working well, how expectations are being met and what modifications are indicated.

In short, evaluation not only *"finds out"* but it also involves the next step, that of assuming responsibility for *"doing something"* about the findings.

It is the aim of this handbook to help make evaluation sound and appropriate. The intent is to offer practical assistance to school systems in planning and executing evaluation of educational projects and programs.

The intent is to present the technical aspects adequately, yet in a practical and, hopefully, interesting way. The authors do not presume that this guide obviates a project director's familiarity with more comprehensive treatments of evaluation theory and practice. Therefore, we call the reader's attention to the bibliography at the end of this guide.

We wish to acknowledge a number of individuals who contributed to final product. Much of the material herein was presented originally by the following conference leaders in a five-session Title III evaluation seminar held in January—February 1970: Ann Marie Bernazza, George Bondra, Ronald Cote', Muriel Gerhard, Joe Gordon, Robert Hale, James Mathews, Robert Nearine, David Shafer. In addition, we are indebted to Dr. Robert Stoughton, Associate Commissioner—Instructional and Pupil Services, Dr. William Nolan, Chief—Bureau of Elementary and Secondary Education, Dr. James Burke, Evaluation Consultant, and Mr. Wallace Roby, Title I Consultant, for their thoughtful contributions to the content of this guide.

Finally, we thank Ann Hedgcock for her imaginative approach to the illustrations.

We are pleased to share credit with the above individuals for whatever merit this guide has.

George D. Kinkade
Roger E. Richards
March 1972

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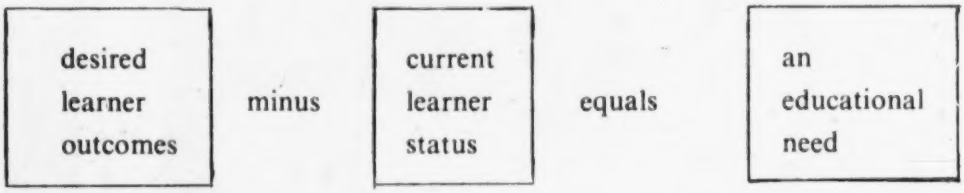
CHAPTER 1 ASSESSMENT OF NEEDS

Increasingly the concept of critical educational needs is stressed in connection with program development and evaluation. Project applicants are expected to design proposals to meet these needs. The National Needs Assessment study and State assessment activities may provide clues for project direction. However, local assessment of need remains a must for the development of worthy projects.

State and Federal programs that encourage the project approach have many criteria in common. Evidence is usually requested that the project demonstrate solutions to identified critical needs and substantially increase the educational opportunities for children in the area.

Needs assessment attempts to find those educational objectives which need to be accomplished in a given instructional situation. A desired learner outcome is identified and the learners' current status in respect to that outcome is ascertained. The difference between current status and the desired status is considered to be an educational need.



Many projects may have come out of the creative genius of individuals who said *"this is needed"*. There should be room for the implementation of such dreams. More and more however requirements call for persons broadly representative of the cultural and educational resources of the community to participate in all appropriate aspects of planning and conducting project activities

There are in every school system people who are not benefitting from the educational process. Their needs are often not considered or even known. The start should be a systematic assessment of the community, the educational and the community at large. Once having identified a number of education needs they should be ranked in some way so that the educational system can be directed toward the most important ones. Here again is an opportunity to involve the community, fellow educators and above all the learners themselves. This involvement will pay off in the long run. The project will be better understood and accepted.

There are other ways to determine educational needs and these must also be explored. One way might be called *"divine revelation"*. The people giving out the money reveal needs and priorities. The government sources, the State Dept. of Education, the regional planning agencies and foundations are all big brothers in this process.

"Bring in the experts" may be another technique for determining needs. They may be outside experts from the University. They may also be the practitioner, the person in the school system who has to do the job.

Science may be able to help—statistics, measurement, hard data that can be interpreted. Information may be available concerning similar programs, relevant research findings and views of recognized experts. A pilot program or study may help determine whether or not the needs can be met and if they are really there.

Needs assessment attempts to specify the kind of terminal behavior ultimately desired. What ought to be present that is not present. Needs assessment identifies what is happening now—if it is good it can be left that way or enhanced—if it is not good, plan to change it to something better.

CHAPTER 2 ESTABLISHMENT OF OBJECTIVES

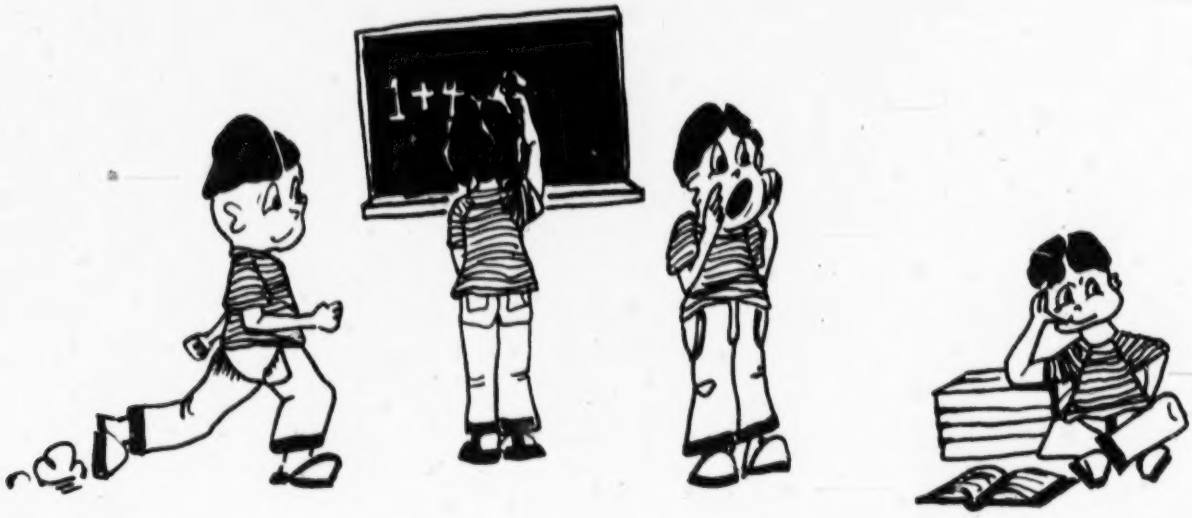
One of the shortcomings of many project evaluations is the absence of objectives related to changes in students. The objectives evaluated are often statements of means rather than ends, or process rather than products. There may well be a need for evaluation of the process but this should be secondary in importance to the product objectives.

Each project objective should serve to suggest one or more descriptions of ways in which students can be observed to have attained that objective to some degree.

Project Objective	*Desired Learning Behavior*
The improvement of readiness of Kindergarten pupils for formal instruction	1. Gain skills in using words and recognizing names 2. Gain skill in number size and quantity relationship 3. Gain skill in identifying and matching colors

If the desired learning can be stated as observable behavior, this is best from the evaluation viewpoint.

Behavioral objectives mean in effect that if learning takes place, some kind of behavioral change must be observed. Behaviorally *"the student runs"* or *"the student writes"* or *"the student yells"*. The student thinks, however, is considered to be non-behavioral and as such presents another problem.



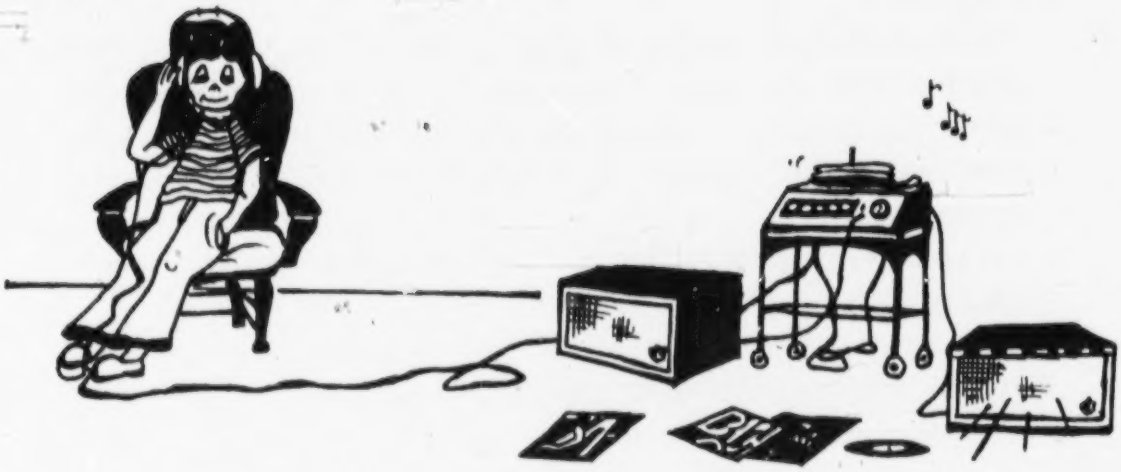
When dealing with words like *"thinking"* or *"appreciation"*, we can't directly measure or even know when it is taking place. Our only criteria can be what the student demonstrates. He frequently *discusses* music; he *borrows* records; he *participates* in music activities. Maybe those things are an inference toward appreciation.

A problem in semantics arises when people attempt to describe behavior. Some clarification may be obtained by dividing behavior into three domains.

The *cognitive* domain emphasizes the mental processes beginning with the concrete acquiring of knowledge and continues through the more abstract processes of analysis and synthesis.

"Johnny will display knowledge of the U.S. Constitution as measured by a teacher—made test (75% correct)

The *affective* domain behaviors are harder to state or evaluate. The emphasis is on the emotional processes, beginning with the simple behaviors to the complex process of total characterization.



"Johnny will respond positively to an inventory designed to assess student attitude toward symphony music. (60% positive)

The *psychomotor* variable describes those behaviors which involve neuro-muscular coordination. Many of these activities ought to be easily observable but in the past have been virtually ignored by educational evaluators. Handwriting and physical education experts have been some use of this domain but the possibilities are much broader.

"Johnny will successfully perform five push-ups in a period less than ten seconds". (teacher judgment)

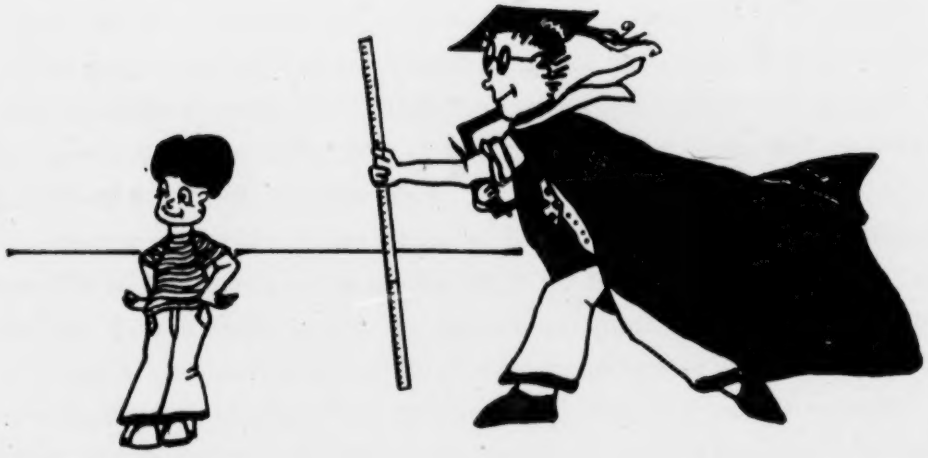
These are by no means clear-cut domains, they intertwine. No behavior is totally in one area and most behaviors involve all areas. (see working paper #1)

Stating Educational Objectives in nonbehavioral terms is relatively easy. However, the result may be something as ambiguous as: *"This course will cover..."* or, *"the instructor will..." First attempts to state objectives in terms of student behavior may read: "students will develop appreciations..."*, or *"students will understand..."* If the teacher is too determined he will state that: *"the student will really understand..."* The problem is what behavior shall we look for in evaluating students' *"understanding"* and *"appreciation"*.

Objectives stated in unambiguous terms are essential to individualized learning. Individualized learning has caused educators to become aware of the necessity of thinking specifically, and speaking precisely when stating the objectives of any educational endeavor. Only then is it possible to ascertain when the objectives have been reached by the learner.

1. *IDENTIFY*	—select, choose, differentiate, point, pick up, place
2. *ORDER*	—arrange, (in specified sequence of pattern)
3. *NAME*	—designate, list
4. *DEMONSTRATE*	—show
5. *DESCRIBE*	—name a different number of characteristics; portray
6. *CONSTRUCT*	—make, build, draw, illustrate
7. *STATE RULE*	—name, formula (formulate)
8. *APPLY RULE*	—calculate
9. *INTERPRET*	—explain, define

Remember we want objectives that are *specific, behavioral,* and above all *measurable!*



After an objective has been formulated as clearly as possible and its importance confirmed by appropriate judges then measures must be devised to assess the attainment of the objective. Norm referenced tests which aim to discriminate among individuals may or may not be suitable to detect changes brought about by an educational treatment. Criterion referenced tests on the other hand are designed specifically for use in detecting the status of an individual or a group in regard to a specific objective, and may better serve the purpose. However, to use this approach to measurement we must set criterions of acceptable performance (working paper III)

WORKING PAPER I

The Behavioral Domains

Both overt and covert behaviors may be classified into three domains:

Cognitive —deals primarily with mental or intellectual processes—the processes of thinking, of knowing, and of problem-solving.

Affective v —deals with feelings, emotions, attitudes, values, interests and appreciations.

Psychomotor —encompasses manual, motor, neuromuscular or physical skills.

Based on the above definitions, review the following behaviors and categorize each by placing a C in front of those which are highly illustrative of the cognitive domain, an *A* in front of those which are of the affective domain and a *P* in front of those which are psychomotor.

_____ 1. The pupil demonstrates a more positive self-concept as measured by the How I Like Myself Inventory.

_____ 2. The teacher enrolled in a teaching methods course develops a value for a certain teaching technique as measured by his ability, without being asked to discuss the factors which make it a good method for him.

_____ 3. Given a variety of alternatives in selecting a college, the pupil makes his selection and states the criteria which he used in reaching his decision.

_____ 4. The pupil strongly defends his viewpoints as measured by teacher observation.

_____ 5. The pupil demonstrates his competency in the Smith Method of Exercising by doing push-ups at a frequency of ten push-ups per minute.

_____ 6. The pupil demonstrates his knowledge of the principle of simple harmonic motion by constructing a device which operates on this principle.

Which of the preceding objectives obviously contain a mixture of two or more behavioral components, namely cognitive, affective and psychomotor?

The utilization of domain taxonomy serves to simplify the process of specification of objectives—however, few behaviors are purely cognitive, affective or psychomotor. We are accurate if we speak of *highly* cognitive or affective or psychomotor.

ANSWER SHEET—WORKING PAPER I

1. A
2. A
3. C
4. A
5. P
6. C

WORKING PAPER II

Compare the following set of objectives—a, b, f, and g with those in the original set.

As a result of *X* program, the pupils will:

a. develop an understanding of mathematics as demonstrated by the construction of an original numeration system.

b. Develop an appreciation of music as demonstrated by his frequent discussions on music, his borrowing of numerous records, his use of leisure time to attend concerts and his participation in music activities after school hours.

*f. become more self-directive as demonstrated by the number of times he designs a course of study for himself, formulates his own objectives in the context of his studies, carries out his studies by himself, and identifies his errors and his accomplishments.

g. have faith in democracy as measured by The Academic Freedom Survey.

In the above samples, the ambiguous terms were retained *but* the terms as demonstrated were followed by specific observable behaviors or instruments which served to indicate to some degree that the objective was attained.

In sum—whenever possible, overt or observable behaviors should be designated. When this is not possible—when we deal with crucial cognitive and effective behaviors which are covert or not observable—there is a need to search for specific behavioral indicators or instruments which designate that the objective was attained.

For Reference Use

Overt behavior —any observable behavior which is readily measurable

Covert behavior —any behavior which is not observable and requires indirect measurement by utilizing behavioral indicators or *products* of the process

Examples:

Overt behavior —the pupil swims (He doesn't write an essay on *"How I swim."*

Covert behavior —The pupil analyzes given data by producing a written report stating the relationships and interrelationships found in the data.

Illustrative *"Tales"*

Dr. Glen Heathers *"Church"* Tale

Dr. Robert Magers *"The Bartender in Africa"*

WORKING PAPER II (Cont.)

For Reference Purposes:

In constructing objectives, we attempt *wherever possible* to avoid terms such as:

understands
understands the meaning of
really understands the meaning of
appreciates
knows
enjoys
grasps the significance of
really grasps the significance of
has faith in
values
investigates
sees
develops an insight
becomes familiar with
covers
thinks
learns
realizes
comprehends
develops the concept of
develops an interest in

Whenever possible, we utilize such terms as:

writes
recites
discusses
states
cites examples of
lists
illustrates
describes
constructs
solves
compares by listing
contrasts by stating
* analyzes by *stating or recording*
selects
* differentiates *by listing*
explains in written or oral form
identifies
names
points to
defines

WORKING PAPER III

Establishing Performance Levels

Having described what it is we want the learner TO BE ABLE TO DO, we can increase the ability of the objective to communicate by telling the learner HOW WELL we want him to be able to do it. We accomplish this by describing the *criterion of acceptable performance.*

Which of the following objectives indicate how the learner will be evaluated *and* describe *at least* the minimum level of acceptable performance? Utilize a check in the spaces designated.

The learner will:

_____ 1. develop a critical understanding of the operation of the Target Tracking Console.

_____ 2. identify by name each of the controls located on the front of the Target Tracking Console and state the function of each control.

_____ 3. demonstrate his skill in using a microscope.

_____ 4. demonstrate his skill in using a microscope by viewing at least 3 slides and constructing an accurate diagram of each.

_____ 5. solve quadratic equations.

_____ 6. solve at least 8 out of 10 quadratic equations.

_____ 7. Given a meter with several scales and a range switch, the learner will identify the scale corresponding to each setting of the range switch.

_____ 8. Given a linear algebraic equation with one unknown, the learner will solve for the unknown without the aid of references, tables or calculating devices.

In sample items 1 –6, you will note that the even items all contained the minimum level of acceptable performance. In sample items 7 and 8, the terminal behaviors not only contained the level of acceptable performance but were further defined by providing the *givens* or *allowances* or the restrictions under which the learner would operate.

CHAPTER 3—MEASUREMENT OF OBJECTIVES

I GENERAL CONSIDERATIONS

Some of the techniques of research can be applied to evaluation. Research in the usual sense, however, is designed to produce new knowledge. Evaluation is more often the assessment of the effects of the application of the new knowledge. Evaluation has as its primary function the appraisal of a practical educational activity. Also, definitive research results sometimes take years to emerge.

Thus, application of the usual experimental design often conflicts with the principle that evaluation should facilitate the continual improvement of a program. Innovative projects especially will want to alter their treatments during the process. Even waiting for the end-of-the-year evaluation data is often too late to make decisions about plans and procedures.

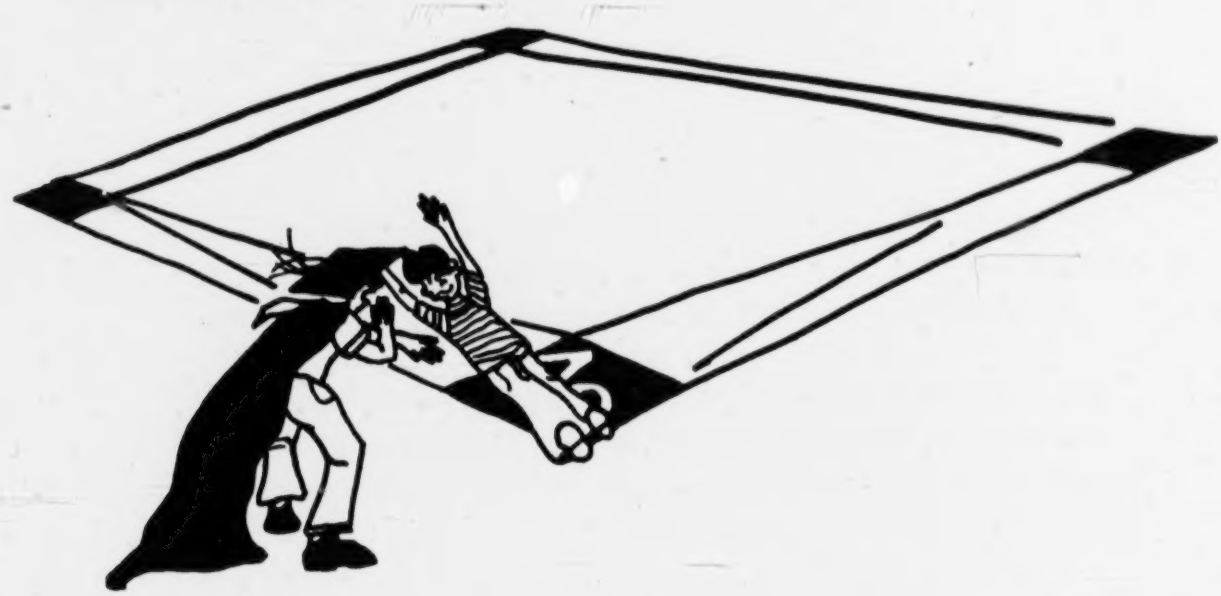
To review the program as it evolves, monitoring must take place during the total situation. Data collection devices and techniques must be applied to the most crucial aspects of the project, analyzed periodically, and reported as often as needed.

End-of-the-project measures of effectiveness may be needed. The nature of the project may be such that the end is the only time measurement can be made. In any case, it is essential to relate outcomes to objectives and make rational analysis of the results.

Remember, behavioral objectives constitute a client-oriented approach to measurement, that is, from the standpoint of the consumer or user. What is the student able to do? Thinking in these terms, the professionals in the education process are not particularly important. It's the student who counts. This leads to a very valid way to approach evaluation.

What has happened to little Johnny Jones? Can his learning climate be a more efficient one?

For each objective in your project there must be at least one activity which could reasonably be expected to achieve the objective. For every objective and its related activity, one or more evaluative procedures are needed.



What are the criteria for assessing the degree to which the objectives were achieved?

One main focus is what all this has done to the target population. This area of adequacy is fundamentally concerned with administrative decisions. Did the program accomplish what was planned for? How do we know it works? What relationship does what happened before have to what was the final result?

Objectives cannot be measured in isolation. They must be related to the total educational environment. Take a look around before proceeding. There may be previous studies which relate to the project. Appropriate instruments may be available. Is there money for additional staff? Can test material be purchased? How about consultant service? Above all, how much data are available from somebody else?

As a result of the needs assessment, lots of information will be available from any given school system—test scores, attendance records, probability studies, ethnic analysis, poverty indices. If any of these data can be incorporated into the evaluation, it often makes the process a lot less difficult, less time consuming, and less expensive.

The final report may be stronger if it contains an evaluation done by an outsider—one who can perform an independent analysis and judge the project on its objectives merits. It is easy to be biased about your own work. Keep in mind that failures contain as much and perhaps more good practical information as successes.

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If an outside organization is going to help with the evaluation, it is wise to have them in on the planning and proposal stage. Then as objectives and procedures are developed, the evaluator can prepare a realizable type of evaluation strategy. This avoids the problem of finding out at the end of the project that they have been pursuing a direction contrary to the needs of the program.

II TECHNIQUES

It is essential to specify *statistical techniques* which are appropriate to the kind of data collected. If the achievement can be demonstrated by counting, don't use a complicated design.

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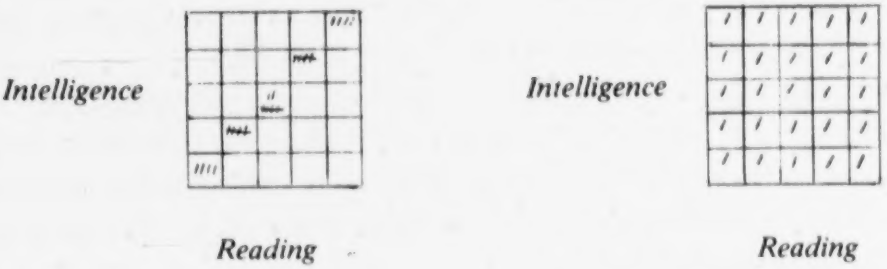
For example:

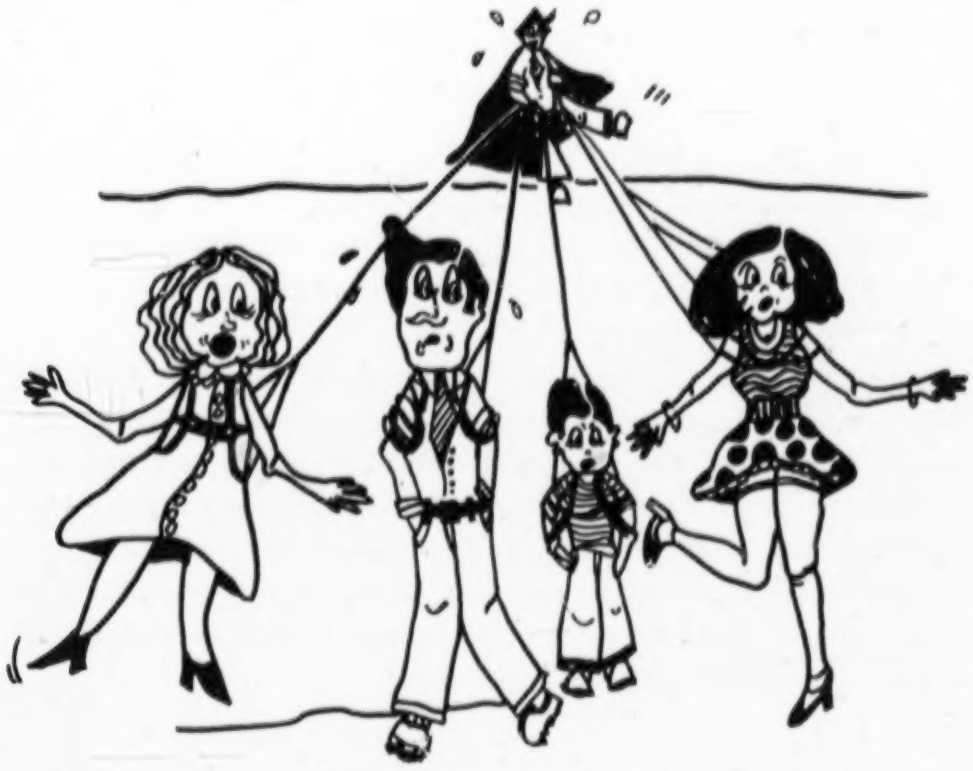
Which paperbacks in a library are getting the most mileage? Check on which ones are worn out first. Which ones are stolen?

Is the Community Service Center having a beneficial effect? What are number of police referrals in the neighborhood? How many broken windows? Has the pattern changed?

Often a *correlation* may be applicable. Is intelligence a factor in performance? After some program of instruction, collect intelligence scores and performance scores. If, by some miracle, the highest intelligence matches the highest performance and so on down the distribution, the correlation is 1.0 (perfect correlation as shown in left scatter diagram below). On the other hand, when none of the scores match, the correlation is .00 (no correlation as shown in right scatter diagram). Somewhere in between are more realistic correlations that will give a numerical estimate of a relationship.



Do student improvements result from the program? Measurements taken at the beginning can be contrasted with subsequent measures. If the *difference scores* compared to chance are significant, sound conclusions may be drawn. Ask yourself, however, was the treatment employed responsible? The only way to be sure would be to control all the other factors. By all means try to do this, but if not possible, don't throw the data away—just temper your conclusions.



The *experimental—control group* method may be applicable. A special program is given one group of students and the results compared to the results from another group not participating. Some measure should be taken at the beginning to establish their quality, Teacher *"A"* could try the new program, Teacher *"B"* would not. After a pre-determined teaching period, the classes are measured again and the results compared. If the experimental group has made the more substantial gains, the results are encouraging. How about possible teacher differences? Perhaps each group should be split in half and the teachers each try both techniques or the program might be repeated with the teachers playing opposite roles.

A *sampling method* may be of assistance. Who are the subjects? Are they not another factor that is varied? Do all of them need to be included in the measurement? Maybe conclusions and generalizations can be made from some parts of the whole. A sample or samples could be chosen by any method that gives each subject an equal opportunity to be in the group. A table of random numbers or the old hat trick are acceptable devices.

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A pure random sample may not be desired. Differences within the total population may be an important factor—ability, economic strata, training, etc. For instance, intelligence is an important aspect in reading. Therefore, the sample of pupils to be evaluated should reflect the range and proportions of intelligence within the total group.

The project may have some anticipated outcomes that do not seem directly measurable. Here the evaluator might take an *opinion poll* of the staff and clientele involved to get the answers. One objective of an educational service center might be to enable towns to cooperate. The people involved (parents, teachers, administrators) could give their opinions as to whether towns did

cooperate. If so, was this a result of this particular center? Has there been more cooperation since the center's advent? There may be no better way than to ask in some organized fashion—questionnaires or interviews. These techniques could also apply to the evaluation of an in-service program for teachers. To be sure, the ultimate evaluation would be to identify measurable effects on the children working with those teachers, but right now it may be important to how the in-service program is received by the teacher-participants.

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Observational techniques may be particularly appropriate in connection with studies of young children. Observations of the subjects might be made over closed circuit T.V. and behavior samples recorded. For example, count the times the student leaves his seat during a twenty-minute reading period. After six weeks of therapy, observations are made again to see if he is settling down. Here, results are strengthened if precautions are taken to select specific aspects of behavior to be observed, to quantify the observations, and to train the observer in advance.

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III INSTRUMENTS

Some of the evaluation instruments needed may be commercially available. A perusal of the *Mental Measurement Yearbook* (Buros, Oscar K.—see bibliography) is a good place to start. Help may be available from another project or the schools and colleges in your area. Don't be afraid to ask. You're bound to find someone interested in measurement related to your project. An instrument may be found that is suitable in toto or one that can be modified to your needs.

Remember, there is no *"right"* standardized test but there is probably one that is more applicable than others for your situation. Make sure whatever your instrumentation is, that is is acceptable for the given population. Most commercial tests are of the normative variety. Scores are normally distributed and the results place each student on a continuum. This may be just the information desired. On the other hand, where the concern is the individualization of instruction, other kinds of measures may be more appropriate. How does the individual's achievement correspond to some desired performance standard? How does the quality of his current performance compare to that of his previous performance? Criterion-referenced tests of this type are being used for national and other assessment studies. Many of the actual items used are available. Commercial tests of this variety are also on the market.

After a survey of all the available instruments, there is often a need for something new. If the technical resources are available in conjunction with the project, elaborate and sophisticated instrumentation can be developed. If these resources are not available, the staff may have to develop their own.

One good way of getting teachers involved in a project is to let them help make the instruments. Homemade tests or questionnaires should be quickies. For the best response, make it short, sweet, yet cover the subject.

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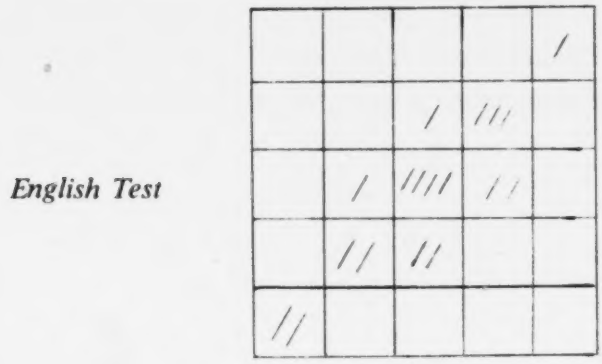
Consider the ease of handling and scoring. Be sure that the new is compatible with the things you already have. If it doesn't make sense, leave it out. The instruments should be clean, clear, precise; take as little time and logistical manipulation as possible.

No matter who makes the instruments, be they test experts or project staff, two basic questions should be asked and, if possible, answered.

The first and foremost question is *how valid is it?* Does it measure what we want to measure, all of what we want to measure, and nothing but what we want to measure?

Suppose a test has been prepared to measure achievement in the use of the English language. Does it really measure such achievement? First, we must agree as to the skill, knowledge, and understanding that comprise correct and effective use of English. Then examine the test to see what skills, etc. it calls for. In other words, match test content to course content. The extent that our objectives are represented in the test, it is valid.

Frequently we can correlate our instrument with some other criterion or measurement. The result of the English test might be compared to the rank individuals received from their English teacher, or better yet, to the results of a section of a valid standardized test concerned with English.



A good positive relationship would help establish the instrument's validity.

The second question with respect to any measuring instrument is *how reliable is it?* Would it reproduce the same results if the same individuals were measured again? One way to find out is to do exactly that. Repeat the use of the instrument on a selected group of students and compare with the previous scores. Another trick is called the split-half method. This is a matter of comparing results based on one half of the test with the results of the other half. A strong positive correlation should be expected from either of these methods if the instrument is reliable.

IV CONCLUSIONS

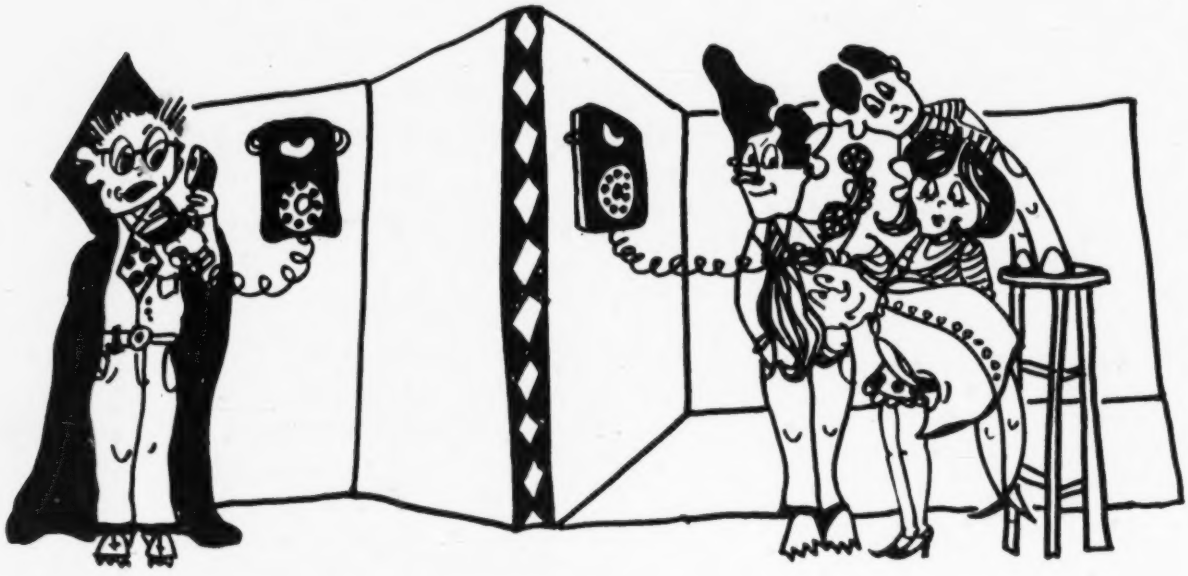
It is usually advisable to prepare a status or a time chart for the evaluation process. Who is going to do what and when? Who is going to select the instrumentation? Who is going to administer the instruments? Who is going to analyze the data? Who is going to prepare the reports and dissemination? When do all these things take place? When are reports due? Check from time to time to see what is going on.

The evaluation techniques mentioned here are but a few suggestions to stimulate your imagination and originality. In these electronic-oriented times, measurement does not need to be confined to the usual pencil and paper tests. The sky's the limit. Any and all possible procedures are worth exploring to gain assurance that students are improving as the results of our efforts.

CHAPTER 4—DISSEMINATION OF EVALUATION

I *Introduction*

A consummated evaluation is valuable only to the extent that the results are known and used. At the receiving end, there are several groups who need and/or want to know about a project's progress. At the sending end, the project managers are motivated and/or obligated to convey progress information. The transmitter's purposes may range from just providing information to supporting recommendations and modifications he advocates.



Effective dissemination of evaluation information, however, is not quite as easy and standardized as the picture above suggests. In fact, this essential phase of the evaluation cycle requires just as much planning and care as the initial design and implementation phases. You must develop evaluation reports whose formats, contents, and emphases are appropriate and meaningful to your various audiences.

II *Communication Audiences*

Project audiences often can be placed into four broad categories: local, state, professional, and non-professional. These categories are *not* mutually exclusive.

	Professional	Non-professional
Local		
State		

While it is possible, under certain circumstances, for an individual to fit into two or more categories, we are mostly concerned with primary group placement for dissemination purposes.

At the same time, it is important to illustrate the different audiences within each broad category:

Local—Professional

1. Project's professional staff
2. Professional educators on project policy and program committees
3. Professional educators employed by participating school district(s), i.e., superintendent of schools, school or program administrators, teachers, other specialists.

Local—Non-professional

1. Project's non-professional staff
2. Non-professional members on project policy and program committees
3. Board of education of participating school district(s)
4. Elected/appointed community officials, e.g., mayors, town councils, boards of finance, political leaders
5. Other members of the community, e.g., parents, special interest groups, taxpayers, etc.

Above all if you think in client centered terms—the pupil may be our most important audience.

State—Professional

1. State Department of Education, e.g., protect staff, Advisory Councils, Commissioner of Education
2. State professional organization, e.g., CEA, Music Teachers Association, Connecticut Association of School Administrators, Non-Public School Associations, etc.

State—Non-professional

1. State Board of Education
2. State Legislature
3. Other associations and societies
4. Citizens in general

It should be apparent in going through this list that these various audiences differ at least in knowledge, experience, interests, and expectations in relation to your project. Of course, there are other inherent differences, such as sex, age, ethnic background, socio-economic status, religious belief, political affiliation, which may or may not be relevant to any particular project. The point is that one reporting process and medium will not enable you to effectively communicate your project's progress to all your deserving audiences. The key task is to communicate information so that it is as appropriate and meaningful as possible.

III *Evaluation Reporting*

Despite the flexibility and variation stressed in the preceding section, there are *common* elements which should appear in any adequate evaluation report. Below are the minimal specifications:

A. *Description of Project and Evaluation Methodology*

1. Project objectives and program
2. Statement of evaluative indicators
3. Who and what was evaluated
4. Evaluation techniques used
5. Period of time covered by evaluation

B. *Presentation of Results*

Several of the following methods may be used, depending upon the nature of data collected and processed:

1. Statistical
2. Charts/graphs
3. Anecdotal—observations, incidents
4. Case study
5. Testimony—opinions, ratings, etc.
6. Criterion data—grades earned, commendations/promotions, products, etc.

C. *Analysis and Conclusions*

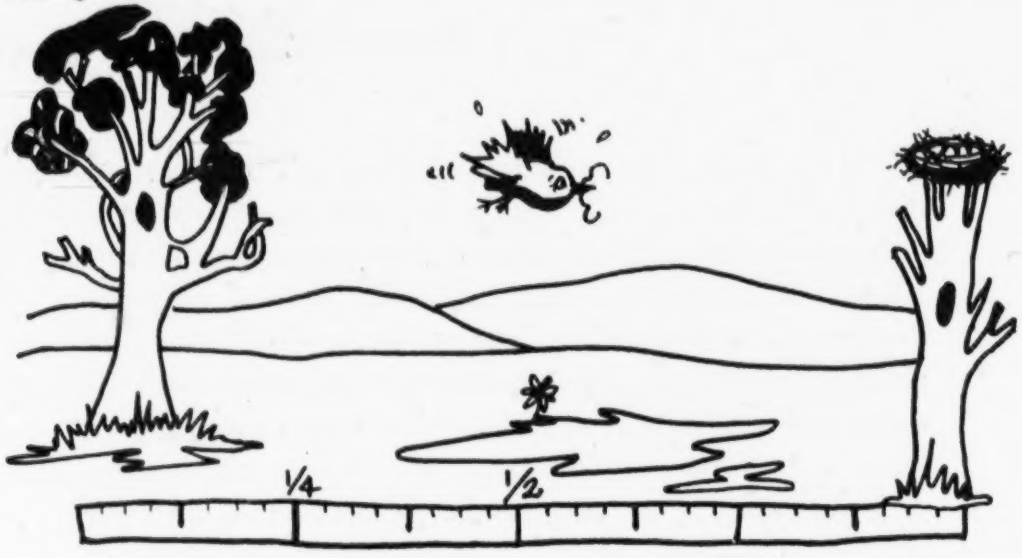
Here the evaluator provides whatever analysis and interpretation is necessary to relate evaluation data to project objectives. If there are unexplained factors or extenuating circumstances, these should be identified. Finally, weighing all the information presented, the evaluator draws conclusions about the project in terms of effect, adequacy, efficiency, and process. These concepts can be depicted in the following way:

1. Effect. Performance or effect criteria measure the *results* of effort rather than the effort itself. This requires a clear statement of one's objective. How much is accomplished relative to an immediate goal? Did any change occur? Was the change the one intended?

Analogy: This can be compared to measuring how far a bird has flown instead of merely counting the flappings of his wings.

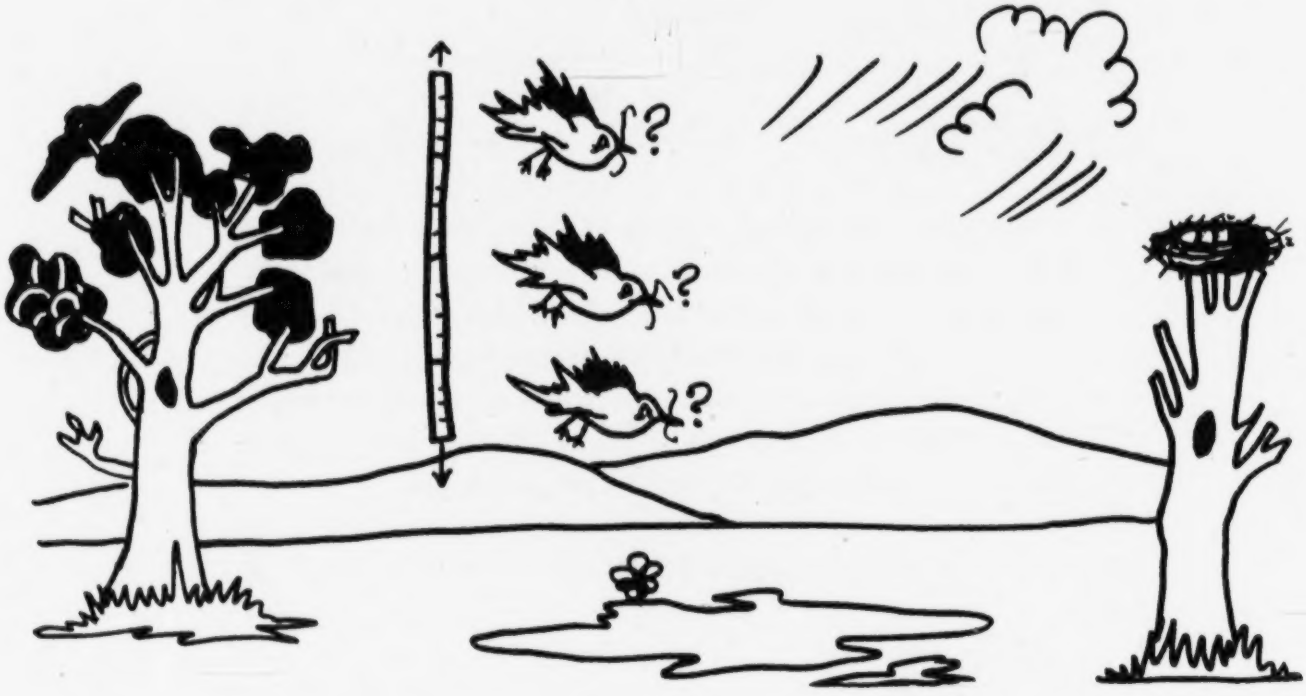
2. Adequacy. This criterion of success refers to the degree to which effective performance is adequate to the total amount of need. Thus, a program of intensive psychotherapy for a small group of mentally ill individuals may show highly effective results, but as a public health measure prove thoroughly inadequate to meet the problem of mental illness in an entire community. Adequacy is obviously a relative measure, depending upon how high one sets one's goals.

Analogy: To continue the analogy made in reference to effort and effect. one would like to measure how far the bird has flown in terms of where he has to go.



3. Efficiency. A positive answer to the question, *"Does it work?"* often gives rise to a follow-up question, *"Is there any better way to attain the same results?"* Efficiency is concerned with the evaluation of alternative paths or methods in terms of costs—in money, time, personnel, and public convenience. In a sense, it represents a ratio between effort and performance—output divided by input.

Analogy: Employing again the now familiar bird analogy, it is like asking the questions: *"Could the bird have arrived at his destination more efficiently by some other means than flying the way he did?" "Did he take advantage of air currents; did he fly too high or not high enough?"*



4. Process. In the course of evaluating the success or failure of a program, a great deal can be learned about how and why a program works or does not work. An analysis of process can have both administrative and scientific significance, particularly where the evaluation indicates that a program is not working as expected. Locating the cause of the failure may result in modifying the program so that it will work, instead of its being discarded as a complete failure. Making sense of the evaluative findings is the basic reason for adding a concern with process to the evaluation study. Otherwise, one is left with the descriptive results of the evaluation, but without any explanations.

Analogy: To complete our analogy to the bird, it is as if we tried to learn something about the anatomy of the bird or the principles of flight as a further step toward understanding its effect, adequacy, and efficiency.

IV *Reporting Requirements*

Referring again to our audience descriptions, the extent, depth, and emphases given to the elements above will vary in reports to different groups. Normally, professional educators will expect and deserve more detail on programmatic and evaluative techniques. Measurements specialists will look for details on data collection and analysis, while concerned school administrators and laymen, such as board of education members, may be more interested in overall appraisal and recommendations to improve adequacy and efficiency. Pupils, parents, and citizens in general may primarily want to know whether the project is any improvement over what existed before.

In other words, the evaluation reporter must use his own judgment and can be exercise options in much of his dissemination. However, since many projects operate under mandated policies and procedures, the evaluation report made to the granting agency must meet certain requirements. It must be submitted at a specified time, follow an established format, and contain prescribed information.

CHAPTER 5—CRITIQUE OF END-OF-YEAR EVALUATION REPORT

Introduction

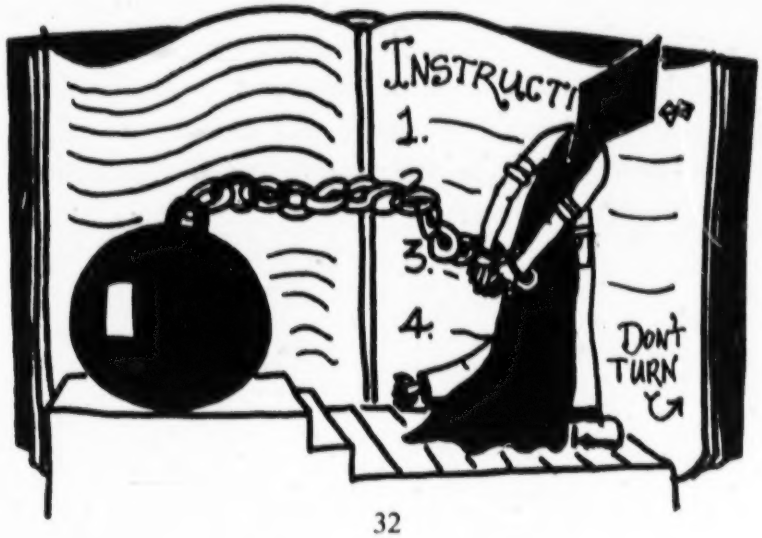
As the conclusion of this manual, you are invited to critique a project evaluation effort. The following report on Project UPSURGE is a simulation, designed to incorporate the basic evaluation elements. Some aspects of the report are strictly fictitious. However, other aspects dealing with techniques used, data presentation and analysis are taken verbatim from actual project reports. In this sense, it is a composite of reality.

Your task is to evaluate this evaluation report. What are its strengths? What aspects are rather vague and uncertain? What does the report suggest about the processes of evaluation planning and implementation?

Instructions

This total exercise should require no more than one hour of your time. To do it, get off some place where it's quiet and where you can work without interruption. First, read the report through. Read critically, keeping in mind the ideas and desirable practices presented in this manual. Next develop your own answers to the questions which follow the report itself. Prior to filling in your answers, you will want to refer again to specific sections of the report, relating the information presented to the judgments made. Finally, you can get some feedback on your analysis. In the appendix are the summarized judgments of others who've done this exercise. *(No fair looking ahead).*

Good luck!



END-OF-YEAR EVALUATION REPORT

Project Title: *Project UPSURGE*
Submitted by: *Fred Jones, Director*
Date: *July 15, 1969*

INTRODUCTION

Project UPSURGE (Unified Programs and Services for Unusual Regional and General Education) has a multi-faceted program serving 11 school districts. Its components include curriculum development, special services, cultural enrichment, and in-service teacher training. This report covers UPSURGE's second year of operation.

THE PROJECT GOALS

The general goal of UPSURGE is to meet important educational needs in the geographic area which it serves. More specifically, the project objectives are:

1. To develop critical science skills and attitudes in pupils
2. To improve students' attitudes toward mathematics
3. To assist schools in developing programs for children with learning disabilities
4. To improve the problem-solving and perceptual capacities of perceptually handicapped pupils
5. To foster the development of instrumental music skills in elementary pupils
6. To develop children's appreciation and understanding of the arts
7. To provide improved in-service training programs

ACTIVITIES AND RESULTS

Project activities and results are grouped below into the four basic components.

1. *Curriculum Development*

   Work was continued in improving science and mathematics materials and instruction. In three schools more manipulative materials and exercises were introduced into the math program. Since attitudes toward math influences motivation and performance, an attitude scale was developed to cover five areas (see page 38). A total of 486 students marked the rating scale in September and in June, providing a control group. Of these, 278 took part in the modified instructional program, thus serving as the experimental group.

   The Wilcoxon Matched-Pairs Signed-Ranks test which employs the direction of differences between first rating and second rating, and also the relative magnitude of the differences was used.

The results of the evaluation process are contained in the following tables and explanations.

The Total Group

Section 1 (the math course)

	N	T	Sign.
Control group (208)	35	214.0	
Experimental group (278)	36	297.0	

Section 2 (the instructional process)

	N	T	Sign.
Control group (208)	23	113.5	
Experimental group (278)	24	81.0	*

*Significant at the 0.05 level

From the scale ratings of the experimental group in this section more students rated mathematics as important, 15% more students thought that they should have more tests, more students said that the teacher could give more individual help, and the other questions were stated about the same on both ratings, including the one about the way mathematics was taught.

Section 3 (the text materials)

	N	T	Sign.
Control group (208)	19	86.0	
Experimental group (278)	20	74.0	

Section 4 (the aids)

	N	T	Sign.
Control group (208)	25	102.0	
Experimental group (278)	25	100.0	

Section 5 (the classroom)

	N	T	Sign.
Control group (208)	13	43.0	
Experimental group (278)	13	17.0	*

*Significant at the 0.05 level

From the scale ratings of the experimental group in this section group work was more favorable, less teacher assistance was requested, and experiments were less favorable.

Using the entire group and this particular statistical test the balance of the differences had to be extreme to produce significant results as large positive results could cancel large negative results, or vice versa. For the total group significant results occurred in the sections which contained information on classroom environment and the instructional process for the experimental group, and no significant results occurred for the control group; therefore, attitudes were altered for the experimental group, as measured in the identified sections and the direction was positive.

New instructional units in science were also introduced into a number of area schools. In each case, brief pretests were developed and administered at the beginning of the unit. At the conclusion of the unit an appropriate achievement test was used. On the pre-test in meteorology ninth grade students did poorly on all the questions except number three. Both students and teachers felt this was due to lack of exposure and laboratory work in these areas. On the pre-test in astronomy students in the upper intermediate grades did fairly well on most of the questions, with the exception of questions 4, 5, 6 and 7. The geology pre-test was prepared for advanced intermediate and secondary school students. The differentiation between rocks and minerals, conceptualization of geologic time, and ability to analyze a two-dimensional representation of land forms were found lacking in most of the students.

2. *Special Services*

A continuing effort of the project is to stimulate the development of programs for children with learning disabilities. Several workshops for teachers and administrators from area schools have been conducted. In addition, specialized consultants on the project staff have conferred with local school staffs on individual pupil cases. To determine the project's impact on local school systems a questionnaire was developed and sent to the superintendents of the 11 school districts. In response to the question concerning *"What special education activities that the project offers are most essential?"* 88 items were listed. When the items were assigned to broad service categories, the distribution was as follows:

Clinical Services.....22%
Consultation 47%
Inservice.....31%

In response to the question *"What special education activities that the project offers are least helpful?"* 25 items were listed. When the items were assigned to broad service categories, the distribution was as follows:

Clinical Services.....36%
Consultation 12%
Inservice.....98%

In response to the question *"What other special education activities do you wish the project organization to consider?"* 50 items were listed. When the items were assigned to broad service categories, the distribution was as follows:

Clinical Services.....40%
Consultation 22%
Inservice.....22%

A special program was instituted at Towaug Elementary School (East Overshoe) for perceptually handicapped pupils. 12 pupils on the basis of diagnostic testing were referred to a special class conducted by perceptual

specialists. This instruction began in October and continued through May. During the spring each child was reexamined with the same test battery which included the WISC, the Bender Gestalt, the Frostig Developmental Test of Visual Perception, the Illinois Test of Psycholinguistic Abilities, and the Draw-a-Person Test. The test administration and interpretation was done by a well qualified clinical psychologist. (see comparative results and interpretations on page 42). In general, 6 pupils showed marked improvement on both mental ability measures and perceptual tests. 4 other pupils showed variable gains, while the 2 who showed little or no improvement gave signs of interferring emotional difficulties.

3. *Cultural Enrichment*

Several project objectives deal with increasing pupils' skills in and appreciation of the arts. A number of project activities were directed at these objectives. For example, during the year a range of cultural programs were presented at area schools. These included: The Air Force Band, the Baker Marionettes, Oriental Dance Fantasy, the Short Pier Theater Company, and The Bach Rock. A post-performance questionnaire was completed by 220 high school students after seeing the Short Pier Theater Company's presentation. When asked to rate both the entertainment value and the educational value of this program, ratings of *"excellent"* were given by 73% and 65%, respectively.

Another successful activity is the instrumental music instruction being provided to many area pupils. A staff of 29 part-time instructors has given 16,099 weekly half-hour lessons in fifteen different instruments to 580 students. Students' progress is checked throughly and continually through music achievement testing and weekly skill progress ratings done by each instructor (see page 43). Findings with the Elementary Music Achievement Test indicate the following:

1. First year pupils made the following gains:

pitch discrimination	—17% Gain
interval discrimination	—98% Gain
meter discrimination	—27% Gain

2. Second year pupils made the following gains:

pitch and rhythm discrimination	—92% above midpoint
feeling for tonal color	—50% above midpoint

Instructors' progress ratings indicate that for the majority of students the development of performance skills was constant. Moreover, a group comprising about 15% of the total showed a very large degree of improvement.

4. *Inservice Training*

Opportunities were provided to area teachers to participate in a variety of inservice training programs. Included were The Innovations Conference, Workshop on Handicapped Pupils, Human Relations Training, Preparation of A-V Materials, Use of Computers in Education, Arts in the Classroom, and Outdoor Education Seminar. The sensitivity aspect of Human Relations Training has created considerable interest. Seven (7) labs have been conducted with a total of 173 participants. Self-rating scales are completed at the beginning and end of the training by each participant. In addition, follow-up study is done when the participants are back on the job. Our judgment is that the lab training is quite successful, although two sessions fell below expectations.

Another popular training program is entitled Preparation of A-V Materials. Its values are attested to in the completed questionnaires (see page 47).

CONCLUSIONS

Project UPSURGE has continued to make progress in serving the educational needs of its area. It has offered new and more effective instructional programs in the sciences and mathematics. Student motivation and achievement in these fields have increased accordingly. The efforts of the special services staff have stimulated greater awareness of and support for special education in area schools. At the same time, we are redirecting project special services to better meet the desires of school superintendents. Of particular note is the small, but important, demonstration of education for perceptually handicapped children conducted in East Overshoe. The benefits of this program merit wider dissemination.

Cultural programs provided to area schools were considered to be of high quality and were well received. At least one *"live"* performance was experienced during the year by every pupil K-12 in the area. In addition, almost 600 pupils had the enriching benefit of instrumental music instruction on a regular basis. There is little doubt that these combined activities are reaching the objectives which were set for them.

Finally, the attitudes and competence of area teachers have been enhanced by the range of inservice education which the project has sponsored. Participation in these programs has been high and many favorable comments have been received. In the coming year we plan to offer again those inservice programs reported herein and expect to develop several new workshops.

ATTITUDE SCALE USED TO MEASURE STUDENT INTEREST

The purpose of this paper is to request your assistance in the construction of an attitude scale with respect to mathematics. You are asked to *check the statements* which express your true feelings about mathematics and those school elements related to mathematics. You do not have to sign your name to the paper; therefore, select the answer that you feel will best express your thoughts. Perhaps your answers will help to improve the instruction of mathematics once the teachers know of the likes and dislikes of the students.

Section I

I hate mathematics._____
I am afraid that I will get the wrong answer._____
I make low grades in my math courses._____
I can't understand mathematics._____
I avoid mathematics when I can._____
I don't understand why I have to take mathematics._____
I can't get any help at home._____
Math is my worst subject._____
I can't stand verbal (word) problems._____
I am very slow in working any kind of problem in math._____
I dislike math._____
I work the problems because I have to work them._____
I wouldn't work some problems because they are hard._____
I wouldn't try the problems if the teacher didn't check them._____
I can work some verbal (word) problems._____
I want to be able to work math problems._____
Math is important._____
Math is interesting._____
I like math but not better than other subjects._____
I don't dislike mathematics._____
Verbal (word) problems are hard for me to do._____
I work the problems in math because they are easy._____
I work problems in math because they are useful._____
I work the problems in math because they are fun._____
I like mathematics._____
The math problems take less time than other assignments._____
I am rather fast in solving (finding the answer to) many kinds of problems in math._____
I like to do verbal (word) problems._____
Math is my best subject._____
I would like to spend more time working with mathematics._____
I make above average grades in my math courses._____

I can explain some of my math problems to my parents._____
I can see mathematics in use outside of school._____
I usually get the right answers to my problems in mathematics._____
I enjoy doing problems in mathematics._____
I rank math above all other subjects in my liking of subjects._____

Section 2

I do not like the way mathematics is taught._____
I do not understand what my teacher is trying to say._____
I get low grades in mathematics._____
I would skip mathematics class if I could._____
We never do anything different, just the same old thing._____
I can't keep up with the rest of the class._____
The teacher doesn't have time to give individual help._____
Everyone must do the same problems during the same period._____
I have too many problems to do._____
We have too much homework._____
We have too many tests._____
It takes too much time to do the assigned problems._____
Mathematics is taught ok but I still have a lot of trouble with it._____
My teacher says that math is important._____
The mathematics class could be more interesting._____
My teacher knows the mathematics ok._____
I can see other ways in which the class could be made more interesting._____
We have a lot of problems to do._____
The teacher uses examples to help us work the problems._____
The teacher makes the math class fun._____
I think the math teacher is very good in mathematics._____
I like the way mathematics is taught._____
I would like to spend more time in math class._____
The assignments do not take me very long to complete._____
I think that we should have more tests._____

Section 3

I do not like the textbook that is used in my math class._____
The book is too hard._____
The book is too hard to read._____
The problems in the book are too hard._____
The book is old._____
The book contains too many problems._____
I use the book in school._____
I use the book at home._____
I wish that we didn't have just one math book._____
We work only from the book and have no worksheets._____
I don't see why we have to finish the book._____
Some topics are covered too fast._____
The book should have more explanation._____
The mathematics book is ok._____
I could learn the mathematics from the book if the teacher left._____

The book contains several examples that I can usually follow._____
I can read the book and understand what it is that I am to do._____
The book is a new one._____
I am supposed to be learning new math._____
I think that this book is easy._____
I like the textbook that is used in my math class._____

Section 4

I don't think that the teacher should use any aids to help teach the math course._____
I think that our textbook is enough to help me learn mathematics._____
I do not like for the teacher to use an over-head projector in the math class._____
I like for the teacher to use the chalk board when he teaches math._____
I don't like to use a lot of material in math class._____
I don't like to see films in mathematics class._____
I can't see using a lot of materials in mathematics class._____
Some materials might be alright to use in a math class._____
I don't know what a model is._____
A film can make math class interesting._____
I sometimes use other materials in mathematics class._____
I don't think that I would like to build things for a math class._____
I might like to use materials if we had them._____
My teacher uses materials like compasses and protractors in class to show something about math._____
I am not impressed by the diagrams or materials used by the teacher._____
I wish that math class had a lab._____
I like to see the teacher use other materials besides the chalk board._____
I think that the use of models and diagrams in class make math class interesting._____
I would like to be able to use the materials myself._____
I would like to have a math lab in school._____
I wish that my teacher would use more materials to make the math class interesting._____
I wish that we had more materials to use._____
I would like to do experiments in the mathematics class._____
I would like to read books concerning math or persons who use or write about mathematics._____
I think that the teacher should use any aids to help teach the mathematics class._____

Section 5

I don't like the room in which we have mathematics._____
The math room does not have any equipment outside of a chalk board to help learn mathematics._____
We must always work in the same place and by ourselves._____
We have too many persons in the math class._____
I don't like to work in groups on the math assignments._____
I wish that we could move our chairs around and work together._____
I think that we could make our classroom better for learning mathematics._____
I don't care to work by myself doing a math experiment._____
I wish that the teacher would let us learn by ourselves sometimes._____
Experiments in the math class might be fun._____
I think that I would like to work in groups while doing assignments._____
I think that the room is alright in which we have math class._____
I would like to change the room to help me learn mathematics better._____

Subj.	1st Tested	Last Tested	Verbal I. Q. 1st	Verbal I. Q. Last	Perf. I. Q. 1st	Perf. I. Q. 2nd	Full I. Q. 1st	Full I. Q. 2nd	Bender	Frosting	ITPA	Drawing	Observation
1	10/6/66	4/22/68	119	128	99	110	110	121	imp.	much imp.	—	much imp.	marked improvement
2	3/13/67	4/25/68	130	135	121	127	128	134	imp.	much imp.	—	much imp.	marked improvement
3	3/23/67	2/29/68	99	92	83	99	91	95	much imp.	—		imp.	improvement perf. only
4	5/ /67	5/23/68	99	95	78	80	88	87	—	slight imp.	—	—	lack of motivation
5	3/6/67	6/13/68	91	99	75	93	82	96	much imp.	imp.	—	much imp.	marked improvement
6	5/1/67	5/23/68	85	87	76	79	79	82	—	imp.	—	imp.	slight improvement
7	1/30/67	3/7/67	121	116	117	128	121	124	not imp.	—	—	emotional	improvement perf. only
8	4/6/67	4/25/68	125	135	129	138	130	140	slight imp.	—	—	imp.	marked improvement
9	3/7/66	4/4/68	109	108	72	69	91	88	imp.	not imp.	—	imp.	complications evident
10	2/10/66	4/11/68	91	84	101	107	96	94	imp.	—	imp.	imp.	improved per. only
11	3/27/67	3/28/68	97	99	69	83	83	91	slight imp.	—	—	imp.	marked improvement
12	6/19/67	6/10/68	89	99	93	111	90	105	—	imp.	imp.	—	marked improvement

EVALUATION FORMS FOR INSTRUMENTAL LESSONS
STRING FAMILY

Name of Instructor _____

Instrument being taught _____

Name of Student _____

Address _____

Age _____ School _____ Grade _____

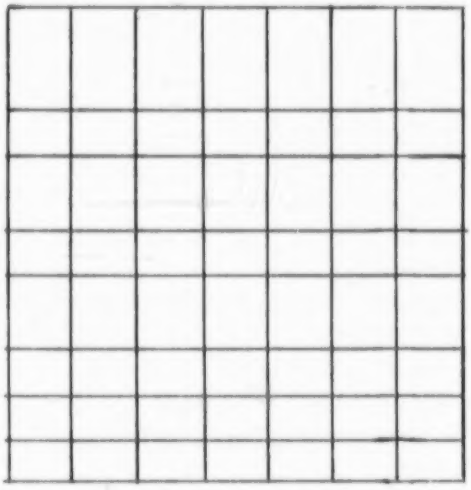
Boy _____ Girl _____

Previous Instrumental Experience _____

Attendance (P-present; A-absent)

WEEK

1. Ability to hold instrument and bow correctly; to draw bow with good wrist motion.
2. Ability to play with good tone.
3. Ability to recall learned notes on each string.
4. Ability to sight read.
5. Ability to play lesson assignments fluently.
6. Ability to play with proper rhythm.
7. Ability to play with accurate pitch.
8. Ability to understand signs.



Please use the following scale in marking:
1-Excellent; 2-Good; 3-Fair; 4-Poor

EVALUATION FORMS FOR INSTRUMENTAL LESSONS
WOODWIND AND BRASS

Name of Instructor _____

Instrument being taught _____

Name of Student _____

Address _____

Age _____ School _____ Grade _____

Boy _____ Girl _____

Previous Instrumental Experience _____

Attendance (P-present; A-absent)

WEEK

1. Ability to hold instrument properly.
2. Ability to play with good tone.
3. Ability to play in tune.
4. Ability to tongue.
5. Ability to recall fingering for all learned notes.
6. Ability to play with mouthpiece used correctly.
7. Ability to play lesson assignments accurately.
8. Ability to sight read.
9. Ability to play in rhythm.
10. Ability to read and understand signs.

Please use the following scale in marking:
1-Excellent; 2-Good; 3-Fair; 4-Poor

EVALUATION FORMS FOR INSTRUMENTAL LESSONS
PIANO—DRUMS

Name of Instructor _____

Instrument being taught _____

Name of Student _____

Address _____

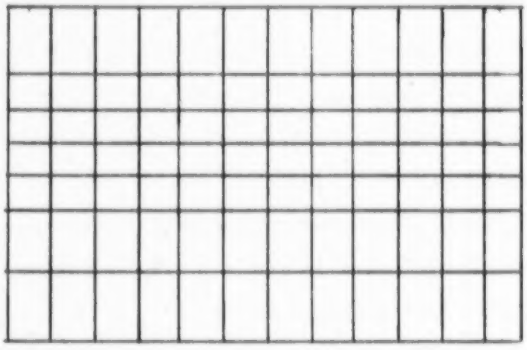
Age _____ School _____ Grade _____

Previous Instrumental Experience _____

Attendance (P-present; A-absent)

WEEK

1. Ability to play with proper posture and hand position.
2. Ability to read learned notes.
3. Ability to play rhythmically.
4. Ability to sight read.
5. Ability to play lesson assignment.
6. Ability to recall and understand signs.
7. Ability to use two hands alternately and then together.



Please use the following scale for marking:
1-Excellent; 2-Good; 3-Fair; 4-Poor

INSTRUCTORS' SKILL PROGRESS RATING FORMS
October 1968—May 1969

	Considerable Improvement	*Constant Improvement*	*No Improvement*	*Regression*
October 1968—November 1968	18%	67.5%	8.5%	6%
December 1968—January 1969	18%	46.0%	30.0%	6%
February 1969—March 1969	13%	50.0%	32.0%	5%
April 1969—May 1969	14.2%	68.0%	16.2%	1.6%
YEARLY AVERAGE	15.8%	57.9%	21.7%	4.6%

Explanations:

A weighted rating scale from 1 to 4 was used. Weight 1 means excellent; weight 2 means good; weight 3 means fair; and weight 4 means poor.

Considerable Improvement—Indicates marked tendency toward higher ratings, for example, a frequent occurrence of ratings of a weight of 3 early in the two month period is replaced by ratings of a weight of 2 and a weight of 1 in the two month period.

Constant Improvement—Indicates continuous high ratings of a weight of 2 and a weight of 1 for the two month period (with an occasional rating of a weight of 3 or a weight of 4.)

No Improvement—Indicates no improvement in ratings for the two month period, for example, the student began the period with a rating of a weight of 3 and/or a weight of 4 and continued to receive a rating of a weight of 3 and/or a weight of 4.

Regression—Indicates a marked tendency toward lower ratings, for example, a rating of a weight of 2 and/or a weight of 1 early in the two month period is replaced by a rating of a weight of 3 and/or a weight of 4 in the latter part of the two month period.

Table 6 shows that the largest proportion of students showing constant improvement, the same at the end of the year as in the beginning of the year in the level of skill, as measured by a weighted rating. That is, 67.5% received continuous high ratings of a weight of 2 and a weight of 1 for the first two month period. In the final two month period, 68% were in this category.

The *"no improvement"* category ranged tremendously over the time span. The 30% of students showing *"no improvement"* in December—January and February—March (32%) appears as a direct result of absence peaks resulting from bad weather conditions and a flu epidemic.

IN-SERVICE WORKSHOP

EVALUATION FORM

Did objectives of workshop meet with your objectives? Yes ✓ No_____

Which session did you feel was of most value? *3rd & last*

Have you been able to use any of the information and skills in your teaching?
Yes_____ No *Not yet*

Would you suggest any other topics for a workshop?_____

Comments about length of each session and / or number of sessions:

Any further comments:

Missed session on transparencies, would like to learn process.

IN-SERVICE WORKSHOP

EVALUATION FORM

Did objectives of workshop meet with your objectives? Yes ✓ No_____

Which sessions did you feel was of most value? *3, 4 & 5*

Have you been able to use any of the information and skills in your teaching?

Yes ✓ No_____

Would you suggest any other topics for a workshop?_____

Comments about length of each session and / or number of sessions:

Perhaps a doubling or duplication of each session (video-tape) for people who missed a session.

Any further comments:

IN-SERVICE WORKSHOP

EVALUATION FORM

Did objectives of workshop meet with your objectives? Yes ✓ No ____

Which session did you feel was of most value? *Transparencies*

Have you been able to use any of the information and skills in your teaching?
Yes ✓ No ____

Would you suggest any other topics for a workshop?

A more in depth approach to research materials that may be used in a Soc. Stud. Curricula — Where to go — Who to write to — What sources are available — Cataloges of free & paid films, etc., etc.

Comments about length of each session and / or number of sessions:

Time — Earlier in the week would be better. Two hours at end of week is rather hard to accept personally.

Any further comments:

Would it be possible to have such a session for in-service workshops for any particular school district — possibly paid for by the school requesting your services.

IN-SERVICE WORKSHOP

EVALUATION FORM

Did objectives of workshop meet with your objectives? Yes ✗ No_____

Which session did you feel was of most value?_____

session on lamination and final session on T.V.

Have you been able to use any of the information and skills in your teaching?

Yes ✗ No_____

Would you suggest any other topics for a workshop?_____

Film making—operating 8 and/or 16 mm. cameras

Comments about length of each session and/or number of sessions:

Adequate—I feel one session on Mechanics was too much.
More time on T.V.

Any further comments:

IN-SERVICE WORKSHOP

EVALUATION FORM

Did objectives of workshop meet with your objectives? Yes ✓ No ____

Which session did you feel was of most value? *Dry mount & T.V. Taping*

Have you been able to use any of the information and skills in your teaching?

Yes ✓ No ____

Dry mounting so far

Would you suggest any other topics for a workshop? ____

on-resources, ways & means of finding materials for use in all curricula areas—

Comments about length of each session and / or number of sessions:

Number of sessions—like more!

Length—suggest one hour—2 hrs. is a bit much for me on a Thursday.

Any further comments:

Yes! How's about the future possibility of this being an extended course that might be used as credits towards a degree through WESCONN. or U.B., etc.

IN-SERVICE WORKSHOP

EVALUATION FORM

Did objectives of workshop meet with your objectives? Yes ✓ No_____

Which session did you feel was of most value? *Making transparencies.*

Have you been able to use any of the information and skills in your teaching?
Yes ✓ No_____

Would you suggest any other topics for a workshop?

Making slides and filmstrips to run with Controlled Reader.

Comments about length of each session and / or number of sessions:

Follow up lessons for individ. preferences might be helpful as there seemed to be so much to cover in such a short time.

Any further comments:

Missed Dry Mount session would be interested in learning this technique.

IN-SERVICE WORKSHOP

EVALUATION FORM

Did objectives of workshop meet with your objectives? Yes X No_____

Which session did you feel was of most value? *Transparencies for overhead projector*

Have you been able to use any of the information and skills in your teaching?

Yes X No_____

Would you suggest any other topics for a workshop? *No*

Comments about length of each session and / or number of sessions:

Can't see anything wrong with sessions as arranged.

Any further comments:

Because I was not familiar with constantly occurring common terminology, it took me longer to absorb the point and at times, I didn't absorb the point. This certainly could be more the result of my being so new to the profession rather than an oversight on your part. Wish you had distributed a general information sheet before each lesson pertaining to equipments—prices, whereabouts etc.

IN-SERVICE WORKSHOP

EVALUATION FORM

Did objectives of workshop meet with your objectives? Yes *Partly* No_____

Which session did you feel was of most value? *Dri-mounting-lamination*

Have you been able to use any of the information and skills in your teaching?

Yes ✓ No_____

Would you suggest any other topics for a workshop?

More use of catalogs and information lists of available materials.

Comments about length of each session and / or number of sessions:

Two hours seems a little long with the amount of available equipment to use for practice. Also the latter part of the week is a bad time to meet.

Any further comments:

Workshops held at individual school on equipment which is there to use would prove of more lasting value. In-service credit would be an added incentive.

CRITIQUE QUESTIONS

I *Project Objectives*

1) Are all objectives stated as behavioral outcomes?

_____

(Yes/No)

2) Are some objectives stated as behavioral outcomes?_____

Which?_____

(Write in numbers)

3) Which "objectives" are really project activities (inputs rather than outcomes)?

_____

(Write in numbers)

II *Evaluation rocedures*

1) Are the evaluation populations identified as to number, project involvement, and other important characteristics?

_____

(Yes/No/in some cases)

2) For how many program elements are no evaluation data reported?

_____

3) Which of the evaluation techniques used are clearly defined for the reader?

_____

_____

_____

Which are not?

_____

_____

_____

4) Which evaluation techniques used provide adequate and appropriate evidence of achievement of objectives?

III *Results and Conclusions*

1) Which results of the evaluation are objective and clear-cut?

Which results are not and why?

2) Which of the conclusions drawn are basically valid?

Which are not and why?

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APPENDIX

CRITIQUE OF EVALUATION REPORT

I *Project Objectives*

1) Are all objectives stated as behavioral outcomes? No

2) Are some objectives stated as behavioral outcomes? Yes
Which? Numbers 1, 2, 4, 5, 6
(even these do *not* include full identification of the evaluation population, techniques to be used, and desired level of performance)

3) Which *"objectives"* are really project activities (input rather than outcomes?
Numbers 3, 7, 8

II *Evaluation Procedures*

1) Are the evaluation populations identified as to number, project involvement, and other important characteristics?
In some cases

2) For how many program elements are no evaluation data reported?
13--no post-test data on three science units, no data on four cultural programs mentioned, no data on six inservice training programs

3) Which of the evaluation techniques used are clearly defined for the reader?
math attitude scale, testing used with perceptually handicapped pupils, measures of musical achievement

Which are not? pre-tests and post-tests in science, special services questionnaire, cultural program questionnaire, rating scales in sensitivity training

4) Which evaluation techniques used provide adequate and appropriate evidence of achievement of objectives?

Sections of math attitude scale deal with range of attitudes but all based on self-report; Music instructors' ratings are frequent and behaviorally defined but could reflect personal bias; Pre and post testing of perceptually handicapped pupils provides for relevant and comparable measures.

III *Results and Conclusions*

1) Which results of the evaluation are objective and clear-cut?

The data on the perceptually handicapped program; The results on math attitude improvement and musical achievement are encouraging although they are based on single evaluation approaches which can be heavily influenced by the person responding.

Which results are not and why?

None of the other results can be considered objective and clear-cut because of uneven evaluation coverage, undefined techniques used, and inadequate collection and presentation of data.

2) Which of the conclusions drawn are basically valid?

The benefits of the perceptually handicapped program do merit wider dissemination, considering the marked improvement in 50% of the cases; there has been progress in the development of musical skills in the majority of pupils participating.

Which are not and why?

There is no evidence that *"student motivation and achievement in (math and science) have increased accordingly"*; one would be hard pressed to know how to redirect the special services program *"to better meet the desires of school superintendents"* on the basis of this report; the evaluation of the in-school cultural programs is almost entirely absent in this report but *"there is little doubt that (this activity is) reaching the objectives which were set for (it)"*. Finally, the evidence presented provides no foundation for the assertion that *"the altitudes and competence of area teachers have been enhanced by the range of inservice education which the project has sponsored."*

AREAS OF EVALUATION CONCERN AND RELATED STATE DEPARTMENT OF EDUCATION PERSONNEL

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